इंटरनेट मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 15612-1 (2005): Textiles - Burning behaviour of curtains and drapes, Part 1: Classification scheme [TXD 32: Textiles Protective Clothing]

"ज्ञान से एक नये भारत का निर्माण"
Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"

Act Number 22 of 2005
The Indian Parliament
RIGHT TO INFORMATION

Made Available By
Public.Resource.Org

"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

BLANK PAGE

BRUTUM FULMEN

IGNORANTIA JURIS NON EXCUSAT

PROTECTED BY COPYRIGHT

भारतीय मानक

वस्त्रादि — पर्दों और ड्रैपों का ज्वलन व्यवहार

भाग 1 वर्गीकरण योजना

Indian Standard

TEXTILES — BURNING BEHAVIOUR OF CURTAINS AND DRAPES

PART 1 CLASSIFICATION SCHEME

ICS 13.220.40;59.080.30

© BIS 2005

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

November 2005

Price Group 3

Chemical Methods of Test Sectional Committee, TX 05

FOREWORD

This Indian Standard (Part 1) was adopted by the Bureau of Indian Standards, after the draft finalized by the Chemical Methods of Test Sectional Committee had been approved by the Textile Division Council.

The flammability is one of the important properties of textile materials apart from other characteristics such as combustion, thermal degradation, smouldering, after glow, smoke and toxicity. With the increasing awareness of fire hazards and promulgation of fire safety rules and regulations in several advanced countries, development of standards on burning behaviour of textiles needs no emphasis.

In order to keep pace with the technological advances in the testing of burning behaviour of textile fabrics intended for curtains and drapes, and similar uses such as drapes and hangings, formulation of standards based on latest practices at International level is essential.

This standard is based on EN 13773 : 2003 'Burning behaviour of curtain and drapes — Classification scheme'. This standard specifies a classification scheme for curtains and drapes using ignitability and flame spread properties of vertically oriented textile fabrics in response to flame contact under controlled conditions. This classification scheme is based on the assessment of ease of ignition and flame spread using two ignition sources with a different heat intensity.

The other parts in this series are:

Part 2	Measurement of flame spread of vertically oriented specimens with large ignition source
Part 3	Method for determining the ignitability of vertically oriented specimens (small flame)
Part 4	Method for determining the flame spread of vertically oriented specimens

The composition of the Committee responsible for formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounding off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TEXTILES — BURNING BEHAVIOUR OF CURTAINS AND DRAPES

PART 1 CLASSIFICATION SCHEME

1 SCOPE

This standard (Part 1) specifies a classification scheme for the burning behaviour of vertically oriented fabrics intended for curtains and drapes and similar uses such as blinds and textile hangings, where classification is required. Untested materials are not classified.

2 REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	*Title*
IS 15612	Textiles — Burning behaviour of curtains and drapes:
(Part 2) : 2005	Measurement of flame spread of vertically oriented specimens with large ignition source
(Part 3) : 2005	Method for determining the ignitability of vertically oriented specimens (small flame)
(Part 4) : 2005	Method for determining the flame spread of vertically oriented specimens

3 PRINCIPLE FOR THE CLASSIFICATION SCHEME

3.1 The classification scheme is based on the measurement of ignitability and flame spread according to the relevant Indian Standards.

3.2 The flame spread of the materials that are ignited by the small flame source is measured with the same ignition source. The flame spread of materials that will not ignite with the small source is measured with the more severe ignition source. Ignitability and flame spread leads to a classification scheme with five classes.

4 TEST METHODS AND CRITERIA USED

4.1 Ignitability or Ease of Ignition

4.1.1 *Test Method*

The classification scheme refers to the edge ignition test of IS 15612 (Part 3), modified by starting with 1 s flame application time and increasing the ignition time by 1 s steps up to 5 s and then by 5 s steps up to 20 s, if no ignition occurs.

4.1.2 *Criteria*

The main criterion considered for classification is ignition/non-ignition.

4.2 Flame Spread

4.2.1 *Test Method*

The classification scheme refers to the edge ignition tests of IS 15612 (Part 4) and IS 15612 (Part 2).

4.2.2 *Criteria*

Flaming debris, flame spread as measured by the severance of first and third marker threads.

5 CLASSIFICATION

5.1 Classes

Untested materials are not classified. This standard has the following class definitions as given in Table 1.

5.2 Criteria for Class Allocation

The class allocation according to class number shall be given as under.

5.2.1 If at least two specimens (out of six) give a result (severing the marker thread and/or flaming debris) belonging to a higher number class, the material shall be given in this higher class.

5.2.2 If only one specimen (out of six) gives a result (ignition of marker thread or flaming debris) belonging to a higher number class, 3 new extra specimens shall be tested in the same direction as the one giving the worst result.

5.2.3 If none of these new specimens gives a result belonging to the higher number class, the material shall be classified in the lower number class.

Table 1 Class Definitions

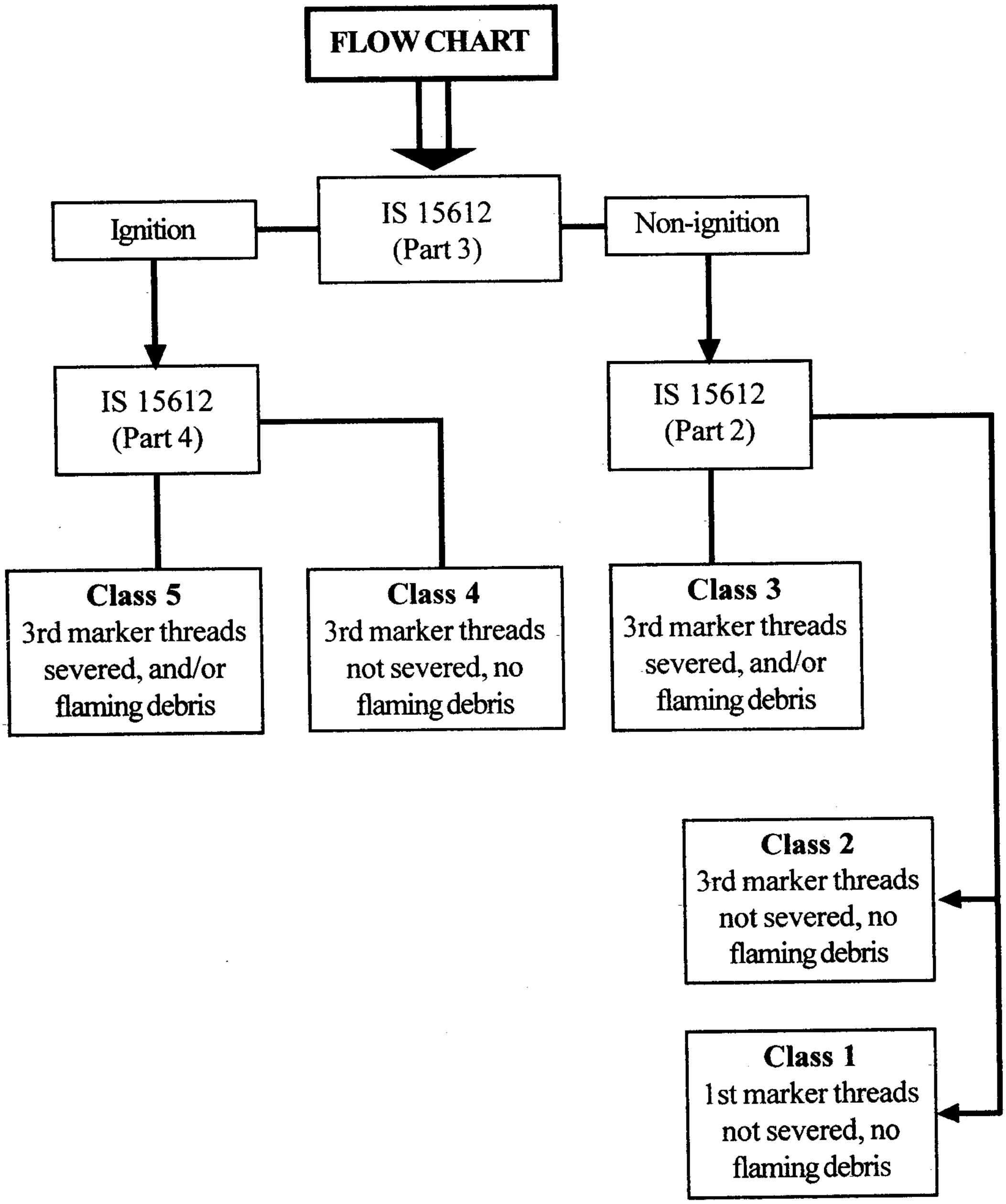
(*Clause* 5.1)

Class (1)	Ignitability (2)	Flame Spread (3)
1	Non-ignition according to IS 15612 (Part 3)	1st marker threads not severed, no flaming debris, according to IS 15612 (Part 2)
2	Non-ignition according to IS 15612 (Part 3)	3rd marker threads not severed, no flaming debris, according to IS 15612 (Part 2)
3	Non-ignition according to IS 15612 (Part 3)	3rd marker threads severed, and/or flaming debris, according to IS 15612 (Part 2)
4	Ignition according to IS 15612 (Part 3)	3rd marker threads not severed, no flaming debris, according to IS 15612 (Part 4)
5	Ignition according to IS 15612 (Part 3)	3rd marker threads severed, and/or flaming debris, according to IS 15612 (Part 4)

5.2.4 If at least one of the extra specimens tested gives a result belonging to the higher number class, the material shall be given this class.

6 FLOW CHART

The main elements of the classification scheme are shown in the flow chart in Fig. 1.


FLOW CHART
Ignition
IS 15612 (Part 3)
Non-ignition
IS 15612 (Part 4)
IS 15612 (Part 2)
Class 5 3rd marker threads severed, and/or flaming debris
Class 4 3rd marker threads not severed, no flaming debris
Class 3 3rd marker threads severed, and/or flaming debris
Class 2 3rd marker threads not severed, no flaming debris
Class 1 1st marker threads not severed, no flaming debris

NOTES

1 The classification does also depend on the conditions for class allocation in **5.2**.

2 This classification refers to the edge ignition test of IS 15612 (Part 3) and IS 15612 (Part 4).

FIG. 1 FLOW CHART

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Chemical Methods of Test Sectional Committee, TX 05

Organization	*Representative(s)*
Textiles Committee, Mumbai	Dr G. S. Nadigar (***Chairman***) Shri E. Vishambharam (*Alternate*)
Bapuji Institute of Engineering & Technology, Davangere	Dr H. L. Vijayakumar Dr K. Murugesh Babu (*Alternate*)
Central Institute for Research on Cotton Technology, Mumbai	Dr (Kumari) C. R. Raje Dr R. H. Balasubramanya (*Alternate*)
Central Pollution Control Board, Delhi	Dr M. Q. Ansari Shri Ajay Aggarwal (*Alternate*)
Clariant (India) Ltd, Mumbai	Dr V. G. Nayak
Directorate of Standardization, Department of Defence Production & Supplies, New Delhi	Lt Col (Dr) R. Shrivastava Lt Cdr B. Manjunath (*Alternate*)
Indian Institute of Carpet Technology, Bhadohi (UP)	Prof (Dr) K. K. Goswami Shrimati Betty Das Gupta (*Alternate*)
Indian Jute Industries' Research Association, Kolkata	Shri N. C. Som
Jayshree Textiles, Rishra	Shri Abhey Nair Shri Pawan Sharma (*Alternate*)
L. N. Chemical Industries, Mumbai	Shri Ketan L. Gandhi
Maniklal Verma Textile Institute, Bhilwara	Dr N. K. Mathur
Man-Made Textile Research Association, Surat	Dr Sandeep R. Naik Shri M. G. Patel (*Alternate*)
Ministry of Defence (DGQA), New Delhi	Shri P. P. Naidu Shri Rama Yadav (*Alternate*)
Ministry of Defence (R&D), New Delhi	Shri S. C. Jain
Office of the Textile Commissioner, Mumbai	Shri R. A. Lal
Rajasthan Spinning & Weaving Mills Ltd, Bhilwara	Maj Gen V. Badhwar Shri Vijay Yadav (*Alternate*)
Reliance Industries Ltd, Mumbai	Shri P. K. Badami Shri Sanjeev Israni (*Alternate*)
SNDT Women's University, Mumbai	Dr (Ms) Bharati A. Patwardhan
Suditi Industries Ltd, Navi Mumbai	Shri R. Chinraj Shri Rajendra Gaikwad (*Alternate*)
Sunil Industries Ltd, Mumbai	Shri Vinod G. Lath Shri Ramesh Khanna (*Alternate*)
Textiles & Engineering Institute, Ichalkaranji, Distt Kohlapur	Prof S. K. Laga Prof S. S. Chinchwade (*Alternate*)
The Bombay Millowners' Association, Mumbai	Shri Mahesh Sharma
The Bombay Textile Research Association, Mumbai	Shri A. V. Affini Shri B. S. Acharya (*Alternate*)

Organization	*Representative(s)*
The Synthetics & Art Silk Mills' Research Association, Mumbai	Shri K. S. Taraporewala Shri D. L. Shah (*Alternate*)
Tex-n-Lab, Thane	Shri Ullas Nimkar Shri S. Vardarajan (*Alternate*)
Veermata Jijabai Technological Institute, Mumbai	Prof K. D. Gawand
Wool Research Association, Mumbai	Shrimati G. P. Rane Shri V. C. Panse (*Alternate*)
In personal capacity *(2, Shri Sidhi Vinayak Cooperative Housing Society, Swatantrya Veer Savarkar Marg, Prabhadevi, Dadar, Mumbai 400028)*	Shri M. D. Dixit
BIS Directorate General	Shri M. S. Verma, Director and Head (TXD) [Representing Director General (*Ex-officio Member*)]

Member Secretary
Shri Anil Kumar
Joint Director (TXD), BIS

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act*, 1986 to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

This Indian Standard has been developed from Doc : No. TX 05 (0750).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110 002
Telephones : 2323 01 31, 2323 33 75, 2323 94 02

Telegrams : Manaksanstha
(Common to all offices)

Regional Offices :		Telephone
Central	: Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110 002	2323 76 17 2323 38 41
Eastern	: 1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700 054	2337 84 99, 2337 85 61 2337 86 26, 2337 91 20
Northern	: SCO 335-336, Sector 34-A, CHANDIGARH 160 022	260 38 43 260 92 85
Southern	: C.I.T. Campus, IV Cross Road, CHENNAI 600 113	2254 12 16, 2254 14 42 2254 25 19, 2254 23 15
Western	: Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400 093	2832 92 95, 2832 78 58 2832 78 91, 2832 78 92

Branches : AHMEDABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR. NALAGARH. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM. VISAKHAPATNAM.

Printed at Prabhat Offset Press, New Delhi-2